Holiday Hazards - Christmas Trees & Decorations

Facts & figures

- Christmas trees were the items first ignited in an estimated 360 reported U.S. structure fires per year resulting in 15 civilian deaths, 44 civilian injuries, and $16.4 million in direct property damage per year, in 1999-2002. These include real as well as artificial trees.
  [Source: NFPA Christmas Tree Fires Report January 2005]
- The number of Christmas tree fires in the U.S. has declined fairly steadily since 1980, but associated deaths have shown no clear, consistent trend. In 2003, there were 11,090 Christmas related injuries in the U.S. These injuries occurred in a variety of activities, including putting up the tree and decorating.
  [Source: NFPA Christmas Tree Fires Report January 2005]
- The leading factor contributing to Christmas tree fires and property damage was a heat source too close to combustibles, with 18 percent of the fires. Forty-four percent of Christmas tree fires in homes involved no equipment, but when equipment was cited it was usually electrical system components, as one would expect if decorative light on the trees, or the system feeding them power, were the primary problem.
  [Source: NFPA Christmas Tree Fires Report January 2005]
- The leading source of heat was arcing, accounting for 90 reported fires per year (30%), no civilian deaths, 10 civilian injuries, and $3.8 million in direct property damage per year. Radiated or conducted heat from properly operating equipment, the second leading cause accounted for 19 percent of the total.
  [Source: NFPA Christmas Tree Fires Report January 2005]
- During 2002, candles in U.S. homes caused an estimated 18,000 reported structure fires, 130 civilian deaths, 1,350 civilian injuries, and $333 million in estimated direct property damage. (Homes include one- and two-family dwellings, apartments and manufactured housing.) Fourteen percent of the home candle fires occurred in December, almost twice the monthly average of 8%. [Source: NFPA Home Candle Fires Report August 05]
- Each year, hospital emergency rooms treat about 10,800 people for injuries, such as falls, cuts and shock, related to holiday lights, decorations and Christmas trees.
  [Source: U.S. Consumer Product Safety Commission]

State Regulations

The Wisconsin Department of Commerce offers these fire safety precautions for Christmas trees and decorations for the holiday season. We want to prevent wonderful traditions from becoming holiday tragedies. The following information is based on the Wisconsin Administrative Code Comm 14 and the adopted 2000 edition of the National Fire Protection Association Standard Number 1 Model Fire Prevention Code. Comm 14 applies retroactively to all public buildings and places of employment.

* *Local municipal ordinances may be more restrictive.*

Comm 14 Fire Prevention Code

1. Combustible vegetation shall not be permitted in assembly, educational, day-care, health care, residential board and care, detention and correctional, mercantile, hotel, or dormitory occupancies. [NFPA 1:3-9.1]
   Exception No. 1: Day-care homes.
   Exception No. 2: Living trees in a balled condition with their roots protected by an earth ball shall be permitted provided they are maintained in a fresh condition and are not allowed to become dry.
   Exception No. 3: Trees located in areas protected by an approved automatic sprinkler system.
2. All weeds, grass, vines or other growth which endanger property through the spread of fire shall be cut down and removed. [Comm 14.03(16)]
3. Natural cut Christmas trees, except those within individual living units, shall have the trunk sawed off at least one inch above the original cut end and shall be cut immediately prior to being placed in a water-bearing stand. The water level shall always be above the cut. [Comm 14.03(15)(b)2.]
4. Artificial combustible vegetation and Christmas trees shall be labeled or otherwise identified or certified by the manufacturer as being flame retardant or flame resistive. [NFPA 1:3-9.2]
5. Artificial Christmas trees, except those within individual living units, shall be flame retardant or nonflammable. [Comm 14.03(15)(b)1.]
6. No combustible vegetation and Christmas trees shall be allowed to obstruct corridors, exit ways, or other means of egress. [NFPA 1:3-9.3]
7. Only listed electrical lights and wiring shall be used on combustible vegetation, Christmas trees, and similar decorations. [NFPA 1:3-9.4]
8. Electrical lights shall be prohibited on metal artificial trees. [NFPA 1:3-9.5]
9. Open flames such as from candles, lanterns, kerosene heaters, and gas-fired heaters shall not be located on or near combustible vegetation, Christmas trees, or other similar combustible materials. [NFPA 1:3-9.6]
10. Combustible vegetation and natural cut Christmas trees shall not be located near heating vents or other fixed or portable heating devices that could cause it to dry out prematurely or to be ignited. [NFPA 1:3-9.7]
11. In occupancies where natural trees are permitted, the bottom end of the trunk shall have a straight fresh cut of at least 1/2 in. (13 mm) above the end *[at least one inch above the original cut end as modified by Comm 14.03(15)(b)2.]* prior to placing the tree in a stand to allow the tree to absorb water. The tree shall be placed in a suitable stand with adequate water. The water level shall be maintained above the fresh cut and checked at least once daily. The tree shall be removed from the building immediately upon evidence of dryness.
    [NFPA 1:3-9.8]

General Safety Precautions

Trees

1. When purchasing an **artificial** tree, be sure it is labeled as fire retardant or flame resistive. Although this label does not mean the tree won't catch fire, it does indicate the tree will resist burning and should extinguish quickly.
2. Flame proofing a **natural cut** tree will do little if anything to retard the fire. The U.S. Forest Products Laboratory at the University of Wisconsin has stated that products currently available for flame proofing are ineffective on natural cut trees. Coating the needle prevents the tree from breathing, reducing water up-take and actually enhances the tree's drying out. When a pine needle is exposed to heat, a gas build-up occurs in the needle. The needle explodes with the pressure build-up, the gas ignites and the fire rapidly builds.
3. When purchasing a live tree, check for freshness. Natural trees and natural decorations or trimmings should be obtained as fresh as possible. A fresh tree has green needles which are hard to pull from branches. When bent between your fingers, fresh needles do not break. The trunk butt of a fresh tree is sticky with resin. When tapped on the ground, a fresh tree should not lose many needles.
4. Keep a natural-cut tree, as moist as possible by giving it plenty of water. Make sure your tree stand holds at least 1 gallon of water. As a general rule, stands should provide 1 quart of water per inch of stem diameter. The average 6-foot tree has a 4-inch diameter trunk and can consume as much as 4 quarts or 1 gallon of water per day. When properly watered, fresh-cut trees will retain some natural fire resistance for approximately 21 days.
5. Natural-cut trees and natural decorations or trimmings should be located a safe distance (recommended 3 feet) from heaters, lights, fireplaces, radiators, stoves, candles and smoking areas. These areas present an ignition source and will also dry out a natural-cut tree rapidly.
6. Do not place the tree in the way of traffic patterns or block your exits.
7. Try to position the tree near an outlet so that cords are not running long distances.
8. Trees should be held upright in sturdy stands having a base broad enough for effective support against surrounding activities. Guy wires may be necessary. Anchorage should be in areas not subject to interference.
9. Remove the tree from your home when it begins dropping needles, and dispose of it properly. Dried-out trees burn easily and should not be left in a garage or placed against the house.

Lights

1. Match the type of tree lights to the purpose (e.g., Christmas tree, indoors, outdoors, etc.).
2. All lights should be listed by a nationally recognized testing laboratory. Identify these by the label from an independent testing laboratory.
3. Use only lights that have fused plugs.
4. Check packaging to determine the maximum number of strings that may be connected or use this rule of thumb: Connect a maximum of three midget (push-in bulbs) light strings or up to 50 bulbs of light strings with the screw-in bulbs (C7s and C9s).
5. Never use electric lights on a metal tree. The tree can become charged with electricity from faulty lights, and a person touching a branch could be electrocuted. To avoid this danger, use colored spotlights above or beside the tree.
6. Follow the manufacturer's instructions on how to use tree lights.
7. Check each set of lights, new or old, for broken or cracked sockets, frayed or bare wires, or loose connections, and throw out damaged sets.
8. Always replace burned-out bulbs promptly with the same wattage bulbs.
9. Keep "bubbling" lights away from children. These lights with their bright colors and bubbling movement can tempt curious children to break candle-shaped glass, which can cut, and attempt to drink liquid, which contains a hazardous chemical.
10. Fasten outdoor lights securely to protect them from wind damage.

Electrical Cords & Equipment

1. Use no more than three standard-size sets of lights per single extension cord.
2. Make sure the extension cord is rated for the intended use.
3. Always unplug or switch off Christmas tree lights before leaving home or going to sleep.
4. Miniature lights are cooler than the standard sized lights and therefore do not dry out the needles as quickly.
5. Larger tree lights should also have some type of reflector rather than a bare bulb.
6. For added electric shock protection, plug outdoor electric lights and decorations into circuits protected by ground fault circuit interrupters (GFCIs). Portable outdoor GFCIs can be purchased where electrical supplies are sold. GFCIs can be installed permanently to household circuits by a qualified electrician.

Decorations

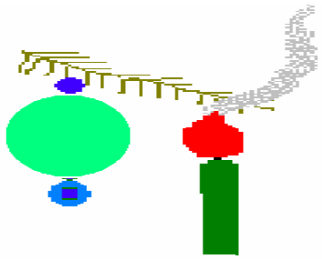
1. Use only non-combustible or flame-resistant materials to trim a tree.
2. Choose tinsel or artificial icicles of plastic or nonleaded metals. Leaded materials are hazardous if ingested by children.
3. Wear gloves to avoid eye and skin irritation while decorating with spun glass 'angel hair."
4. Follow container directions carefully to avoid lung irritation while decorating with artificial snow sprays.
5. An individual should be assigned to periodically check the security and condition of the decorations. In dining and drinking establishments, this check should be done several times a day during the period of activity.

Candles

1. Never use lighted candles on a tree or near other evergreens.
2. Always use sturdy, non-combustible candleholders that can collect dripping wax and won't tip over.
3. Place candles where they will not be knocked or blown over by a person or pet.
4. Keep candles away from other decorations and wrapping paper.
5. Extinguish a candle when 2 inches of wax remains or a half-inch if the candle is in a container. This prevents heat damage to the surface and stops glass containers from breaking.
6. Extinguish candles when leaving the room or going to sleep.
7. Keep candles, matches and lighters away from children. Store matches and lighters up high, out of the reach of children, preferably in a locked cabinet.
8. Don't leave children in a room with lit candles.

Children Supervision

1. Children are fascinated with Christmas trees. Keep a watchful eye on them when they are around the tree.
2. Do not let children play with the wiring or lights.
3. In homes with small children, take special care to avoid decorations that are sharp or breakable.
4. Keep trimmings with small removable parts out of the reach of children to avoid the child swallowing or inhaling small pieces.
5. Avoid trimmings that resemble candy or food that may tempt a child to eat them.



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